

**Health Expenditure and Income in the OECD Countries: Evidence from a Heterogeneous, Cross-Sectionally Dependent Panel**Felipa de Mello-Sampayo<sup>1</sup>, Sofia de Sousa-Vale<sup>1</sup><sup>1</sup> ISCTE-IUL, Lisbon, PORTUGALContact: [filipa.sampayo@iscte.pt](mailto:filipa.sampayo@iscte.pt)

**Objectivos (Objectives):** This paper analyses the relationship between health expenditure and income using a panel of 30 OECD countries observed over the 1990s. In particular, the non-stationarity and cointegration properties between health care spending and income and non-income variables is studied. This is performed in a panel data context controlling for both cross-section dependence and unobserved heterogeneity. Heterogeneity is handled through fixed effects in a panel model. The findings suggest that health care is a necessity rather than a luxury, with an elasticity much smaller than expected when controlling for dependency rates for old and young age structure, health care expenditure financed by government, privately and on medicaments and technological progress.

**Metodologia (Methodology):** This paper studies the long-run economic relationship between health care expenditure, income and other non-income determinants of health care spending in the OECD countries. Using a panel of 30 OECD countries over the period 1990-2009, we investigate the non-stationarity and cointegration properties between health care spending and a set of regressors including income per capita, the dependency rates for old and young age structure, health care expenditure financed by the government, privately and on medicaments. We also attempt to study the relationship between technological progress and health care expenditure using infant mortality as a proxy for changes in medical care technology. The dynamics of health expenditure and this set of regressors as well as their relationship are investigated by estimating a heterogeneous panel model with cross sectionally correlated errors. A factor structure is included in the econometric specification with the intent to synthesize the effects of shocks that may hit health spending such as advances in medical care technology, policy shifts, new diseases, and shifts in preferences and expectations by users of health services. The factor structure can capture any contemporaneous correlation that arises from the common response of countries to such unanticipated events.

**Resultados (Results):** In this paper we consider that health expenditures per capita are explained by income per capita, the dependency rates of the population, technological progress, and different sources of health expenditure funding: public, private and expenditures in medicaments.

**Conclusões (Conclusions):** This paper analyzes the long-run economic relationship between health care expenditure and a set of determinants of health expenditure in the OECD countries. Using a panel of 30 OECD countries over 20 years, we have studied the non-stationarity and cointegration properties of health care expenditure and its determinants. Our analysis indicates that health care expenditure and its determinants are non-stationary, and that they are linked in the long-run. We also detect a significant cross country dependence. Our results show that health care is a necessity rather than a luxury, with an elasticity much smaller than that estimated in other OECD studies. Our results also indicate a determinant role for the health care expenditure financed by government, privately and on medicaments in explaining health expenditure variations across OECD countries. Thus, the relatively low coefficient we obtain for income elasticity points out to a transfer of its importance to other income variables, such as healthcare expenditure financed by the government, privately and on medicaments. The weight of the income therefore dilutes when controlling for other income as well as other non-income determinants of health expenditure. As for non-income determinants, technological progress, the percentage of young and elderly people reveal a positive impact on health care expenditures.